Communications Academy
2007

Providing Effective Assistance to 911 Dispatch Centers: The Amateur Radio Operator’s Role in Emergency and Disaster Communications

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SNOCOM 911

Terms to Know

- “ANI” – Automatic Number Identification
- “ALI” – Automatic Location Identification
- “PSAP” Public Safety Answering Point
- “CAD” – Computer Aided Dispatch
- “VoIP” – Voice Over Internet Protocol
- “E-911” Enhanced 911
- “TDD” – Telecommunications Device for the Deaf
- “MDT” – Mobile Data Terminal

Terms to Know

- “UPS” Uninterrupted Power Supply
- “MCI” Multiple Casualty Incident

A Good source of information on terms is “APCO” International. They have a comprehensive list of common terms and abbreviations used in emergency dispatching.
www.apcointl.org

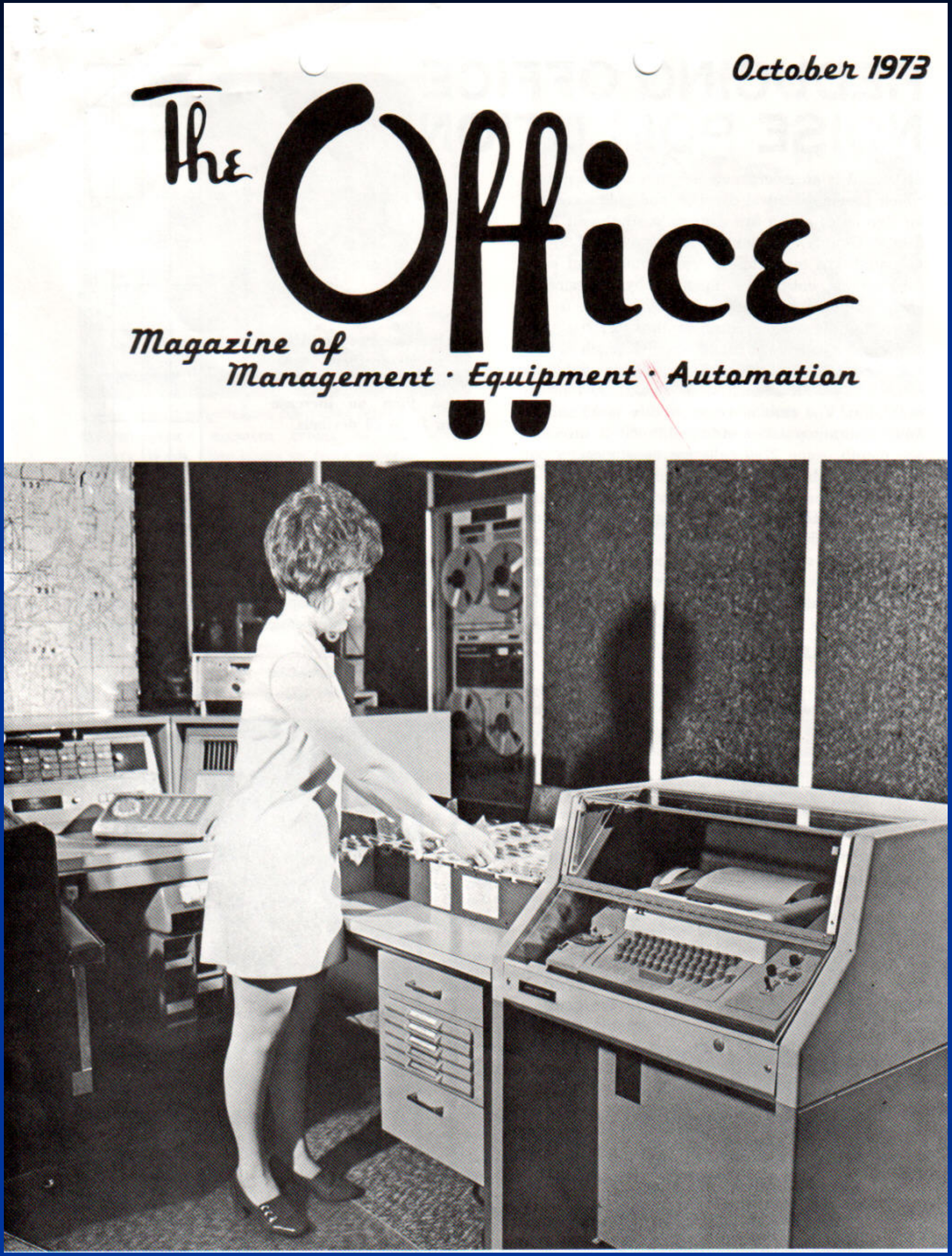
History of 911

- 1937 – Britain implements “999”.
- 1959 – Canada implements “999” converts to “911” in 1972.
- 1968 – AT&T announces designation of 911 as potential universal emergency number in the U.S.
- 1968 – First 911 call placed in U.S. in Alabama.
- 1969 – Puyallup, WA becomes first city west of the Mississippi to implement 911.

History of 911

- 911 evolves from hard wire direct-line calls into “Selective Routing”.
- 1978 – First “Enhanced 911” begins trial phase in California. This shows only the calling phone number.
- 1980 – First applications of fully enhanced 911 with both phone number and address information presented.
- 1990’s – Internet begins shaping 911 calls.

History of 911 in Snohomish County



October 1973

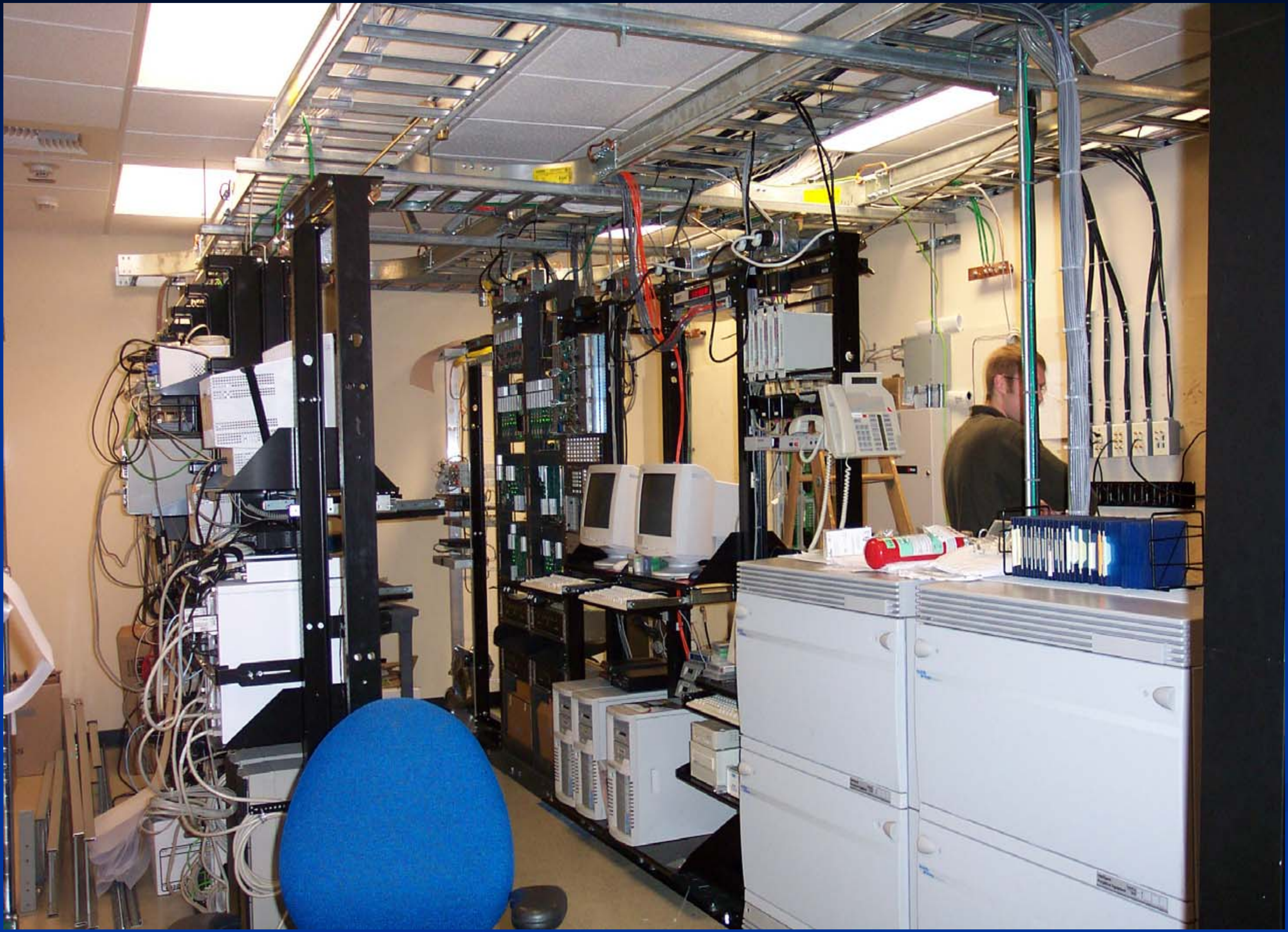
The Office

Magazine of Management · Equipment · Automation

132
251
215
524
Gates Acoustinet

COMMUNICATIONS CONTROL CENTER
MOTOROLA

“Typical” modern dispatch environment



Clinic Requests

Physical Environment

- Enclosed, high security area
- Few or no windows
- Little or no natural light
- Sometimes cramped or sub-prime workspaces
- Inability to leave work area easily for food or bathroom breaks
- Inability to leave facility while on break

Mental Environment

- High Stress
- Long hours
- Mandatory overtime
- Working holidays and weekends
- Personal time/family time sacrifice

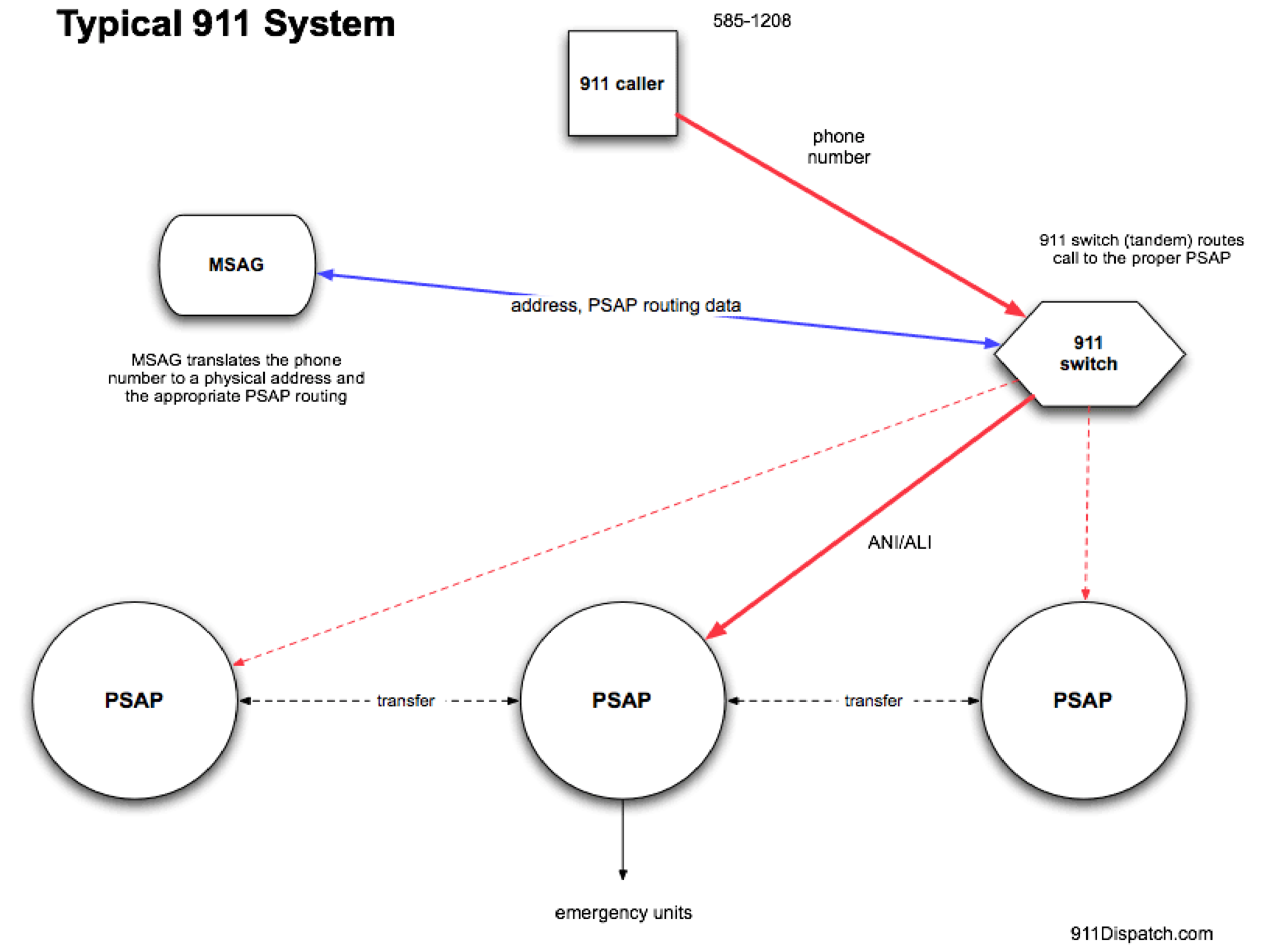
Equipment

- Computerized dispatch programs
- Mapping
- Computerized telephone systems
- Computerized 800 MHz radio systems

Training

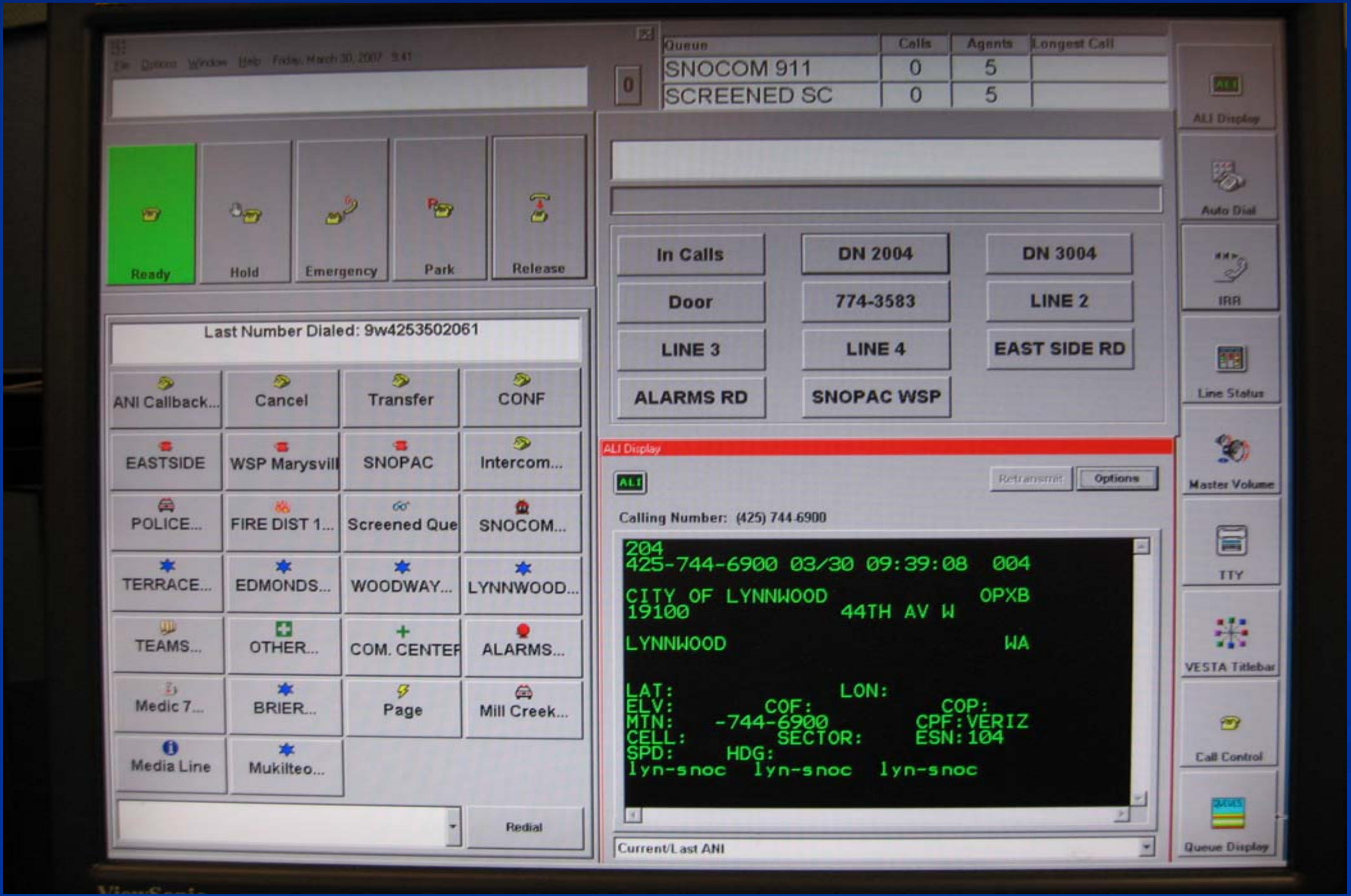
- In-house classroom “Academy”
- On the job
- Required certifications e.g. medical dispatch, Telecommunicator, crime database etc.

911 Call Processing


Typical 911 System
585-1208
911 caller
phone number
911 switch (tandem) routes call to the proper PSAP
MSAG
address, PSAP routing data
911 switch
MSAG translates the phone number to a physical address and the appropriate PSAP routing
ANI/ALI
PSAP
transfer
PSAP
transfer
PSAP
emergency units
911Dispatch.com

Source: 911disptach.com

911 Call Received



Queue	Calls	Agents	Longest Call
SNOCOM 911	0	5	
SCREENED SC	0	5	

Last Number Dialed: 9w4253502061

Calling Number: (425) 744 6900

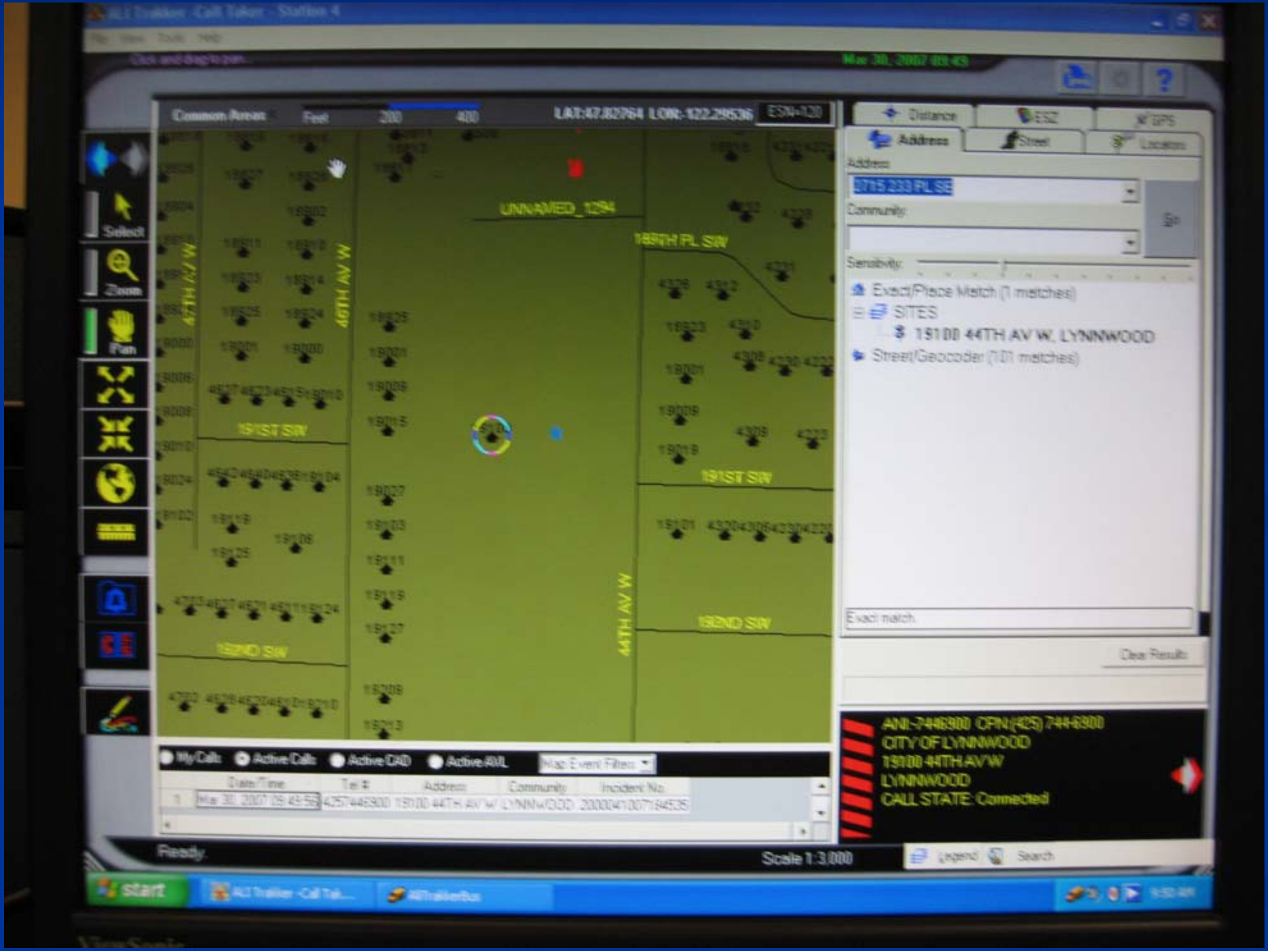
```
204
425-744-6900 03/30 09:39:08  004

CITY OF LYNNWOOD                 OPXB
19100                44TH AV W

LYNNWOOD                           WA


LAT:                 LON:
ELV:        COF:              COP:
MTN:   -744-6900            CPF:VERIZ
CELL:        SECTOR:        ESN:104
SPD:     HDG:
lyn-snoc  lyn-snoc  lyn-snoc
```

911 Call Received



Address: 9715 233 PL SE

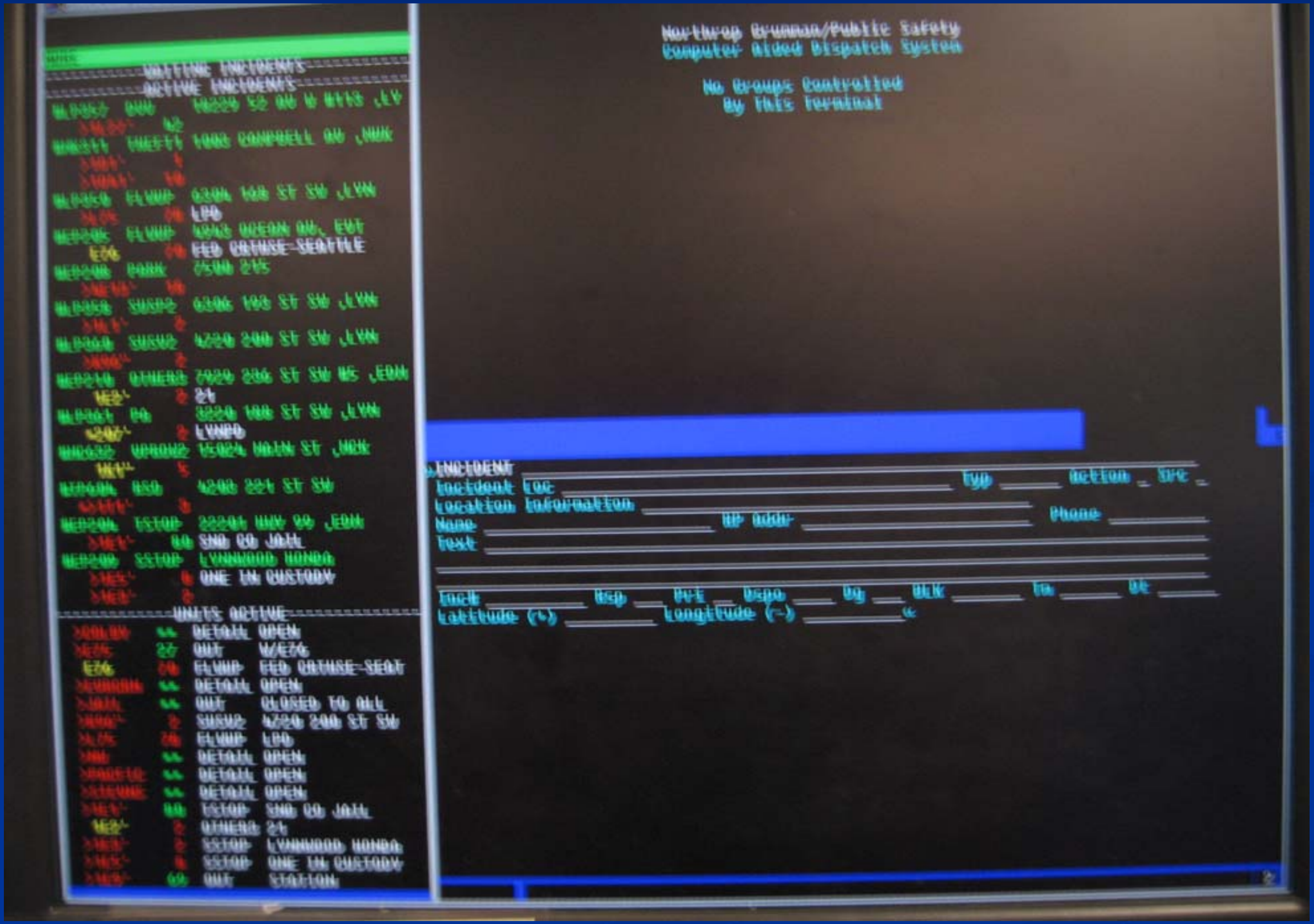
Exact/Place Match (1 matches)
SITES
19100 44TH AV W, LYNNWOOD
Street/Geocoder (101 matches)

Exact match

	Date/Time	Tel #	Address	Community	Incident No.
1	Mar 30, 2007 09:49:56	4257446900	19100 44TH AV W	LYNNWOOD	2000041007184535

ANI-7446900 CPN (425) 744-6900
CITY OF LYNNWOOD
19100 44TH AV W
LYNNWOOD
CALL STATE: Connected

911 Call entered



```
WAITING INCIDENTS
ACTIVE INCIDENTS

UNITS ACTIVE
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Northrop Grumman/Public Safety
Computer Aided Dispatch System

No Groups Controlled
By This Terminal

INCIDENT
Incident Loc                                   Typ       Action _ Src _
Location Information
Name                     RP Addr                          Phone
Text

Latitude (+)            Longitude (-)
```
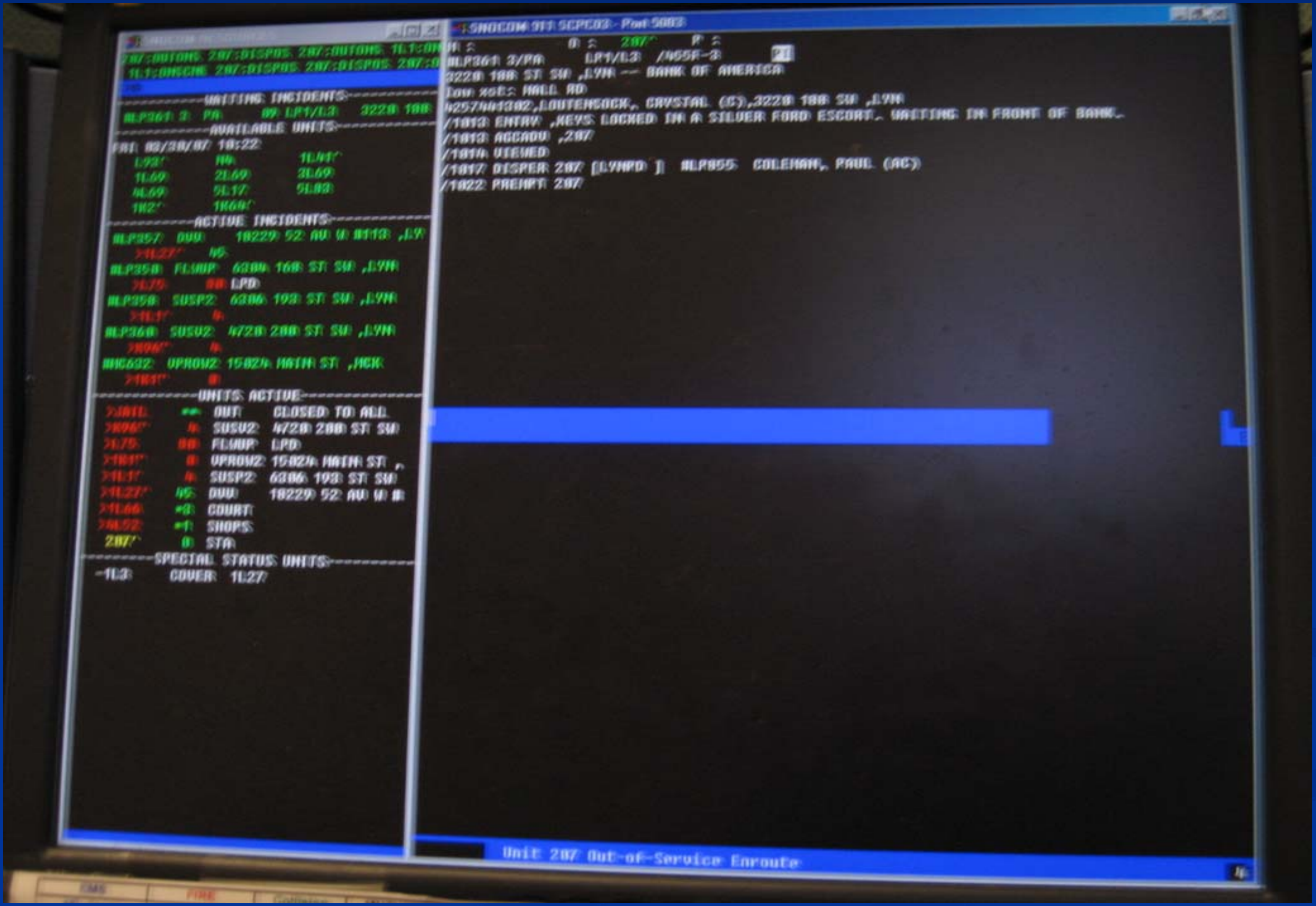
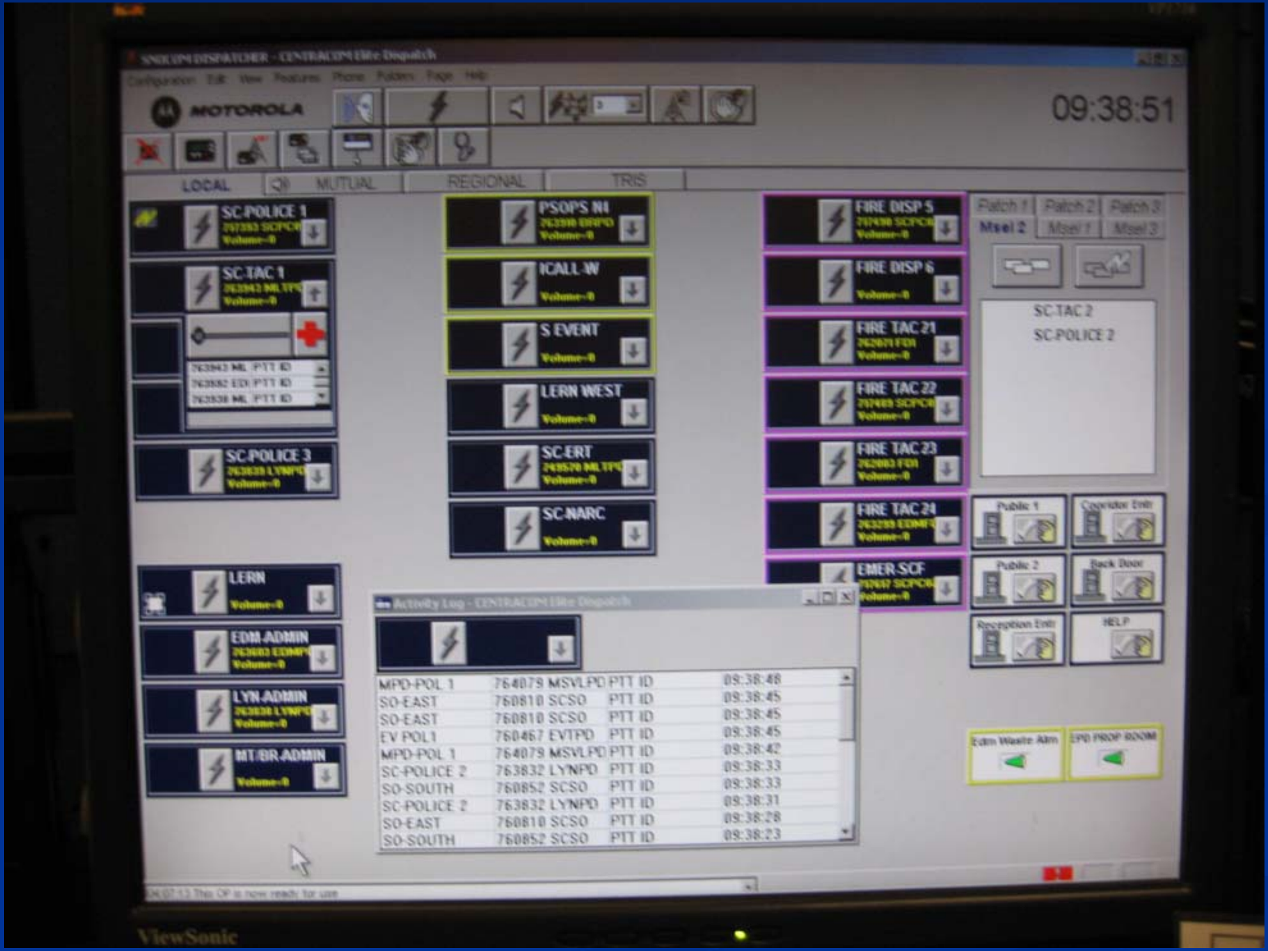

911 Call Dispatched



```
SNOCOM 911 SCPE03 - Port 5003
#LP361 3/PA      LP1/L3  /465A-3
3220 188 ST SW ,LYN -- BANK OF AMERICA
low xst: HALL RD
4257441302,LOUTENSOCK, CRYSTAL (C),3220 188 SW ,LYN
/1013 ENTRY ,KEYS LOCKED IN A SILVER FORD ESCORT. WAITING IN FRONT OF BANK.
/1013 ACCADV ,207
/1014 VIEWED
/1017 DISPER 207 [LYNPD ]  #LP855  COLEMAN, PAUL (AC)
/1022 PRENRT 207

Unit 207 Out-of-Service Enroute
```

```
---------WAITING INCIDENTS---------
#LP361 3  PA     09 LP1/L3   3220 188
---------AVAILABLE UNITS---------
---------ACTIVE INCIDENTS---------
---------UNITS ACTIVE---------
          OUT     CLOSED TO ALL
          SUSV2   4720 200 ST SW
          FLWUP   LPD
          UPROW2  15024 MAIN ST ,
          SUSP2   6306 193 ST SW
          DUU     18229 52 AV W #
          COURT
          SHOPS
207'      STA
---------SPECIAL STATUS UNITS---------
-1L3      COVER  1L27
```

911 Call Dispatched



```
MPD-POL 1      764079 MSVLPD PTT ID     09:38:48
SO-EAST        760810 SCSO   PTT ID     09:38:45
SO-EAST        760810 SCSO   PTT ID     09:38:45
EV POL1        760467 EVTPD  PTT ID     09:38:45
MPD-POL 1      764079 MSVLPD PTT ID     09:38:42
SC-POLICE 2    763832 LYNPD  PTT ID     09:38:33
SO-SOUTH       760852 SCSO   PTT ID     09:38:33
SC-POLICE 2    763832 LYNPD  PTT ID     09:38:31
SO-EAST        760810 SCSO   PTT ID     09:38:28
SO-SOUTH       760852 SCSO   PTT ID     09:38:23
```

911 Call Dispatched

Call Volumes

Dispatchable vs. Non-dispatchable

Typical Call Volumes - SNOCOM

- Approximately 105,000 Dispatchable calls for police service.
- Approximately 25, 000 Dispatchable calls for fire and medical services.

- Total: 133,000 Dispatchable calls in 2006

Typical Call Volumes - SNOPAC

- Approximately 600,000 dispatchable calls for service (police and fire combined)

High Call Volume

- Calls overload available staff
- Resource Depletion
- “Levels” of service based on call volumes.
  - Level One – Normal operations
  - Level Two – Stressed operations
  - Level Three – Partial failure of radio or phone systems
  - Level Four – Total or critical failure of multiple systems

Stressed Operations

- Operations related to specific incidents can be moved to the mobile communications vehicle.

Critical Failures

Operations can be moved to alternate facilities

Large Scale, Localized Events

2003

Tanker fire at I-5 over 44th Avenue in Lynnwood

Photo Courtesy of the
Mountlake Terrace Fire Dept.

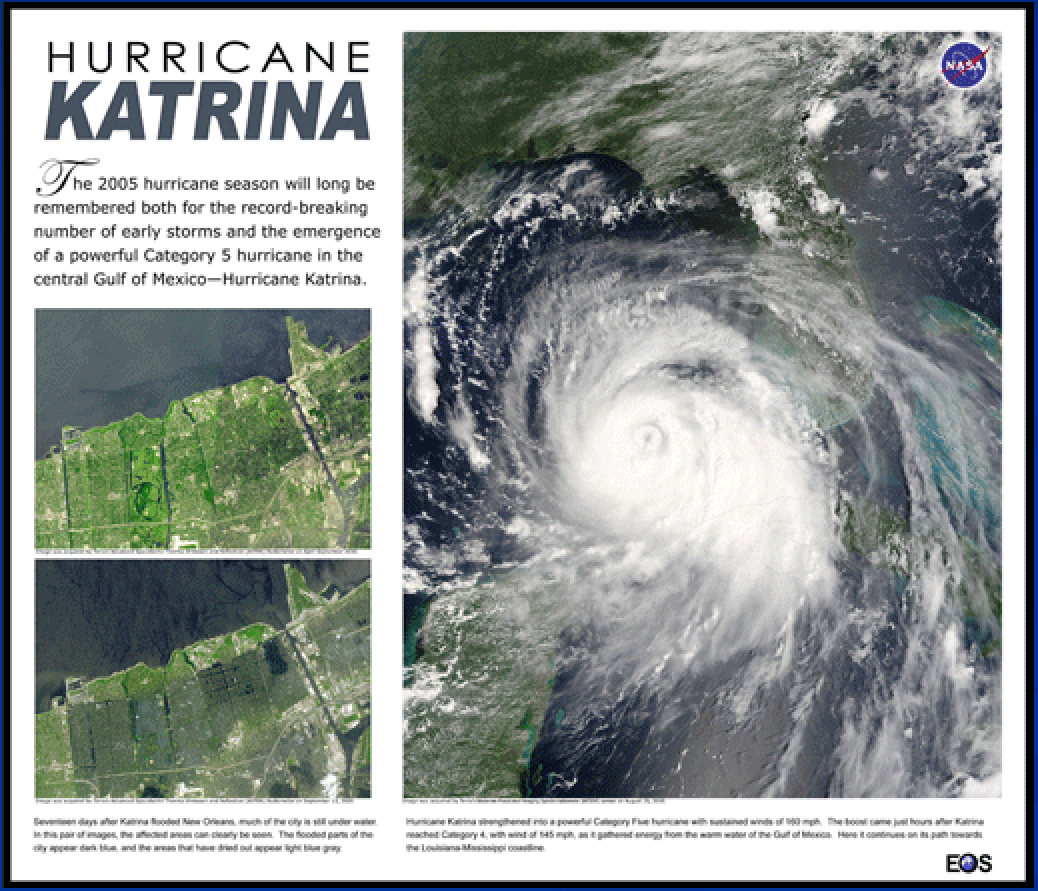
Tanker Fire 2003

Large Scale, Localized Events

2005 – The Gregory Condominium Fire, Edmonds

Photo Courtesy of the Edmonds Fire Department

Large Scale, Regional events



HURRICANE

KATRINA

The 2005 hurricane season will long be remembered both for the record-breaking number of early storms and the emergence of a powerful Category 5 hurricane in the central Gulf of Mexico—Hurricane Katrina.

Seventeen days after Katrina flooded New Orleans, much of the city is still under water. In this pair of images, the affected areas can clearly be seen. The flooded parts of the city appear dark blue, and the areas that have dried out appear light blue gray.

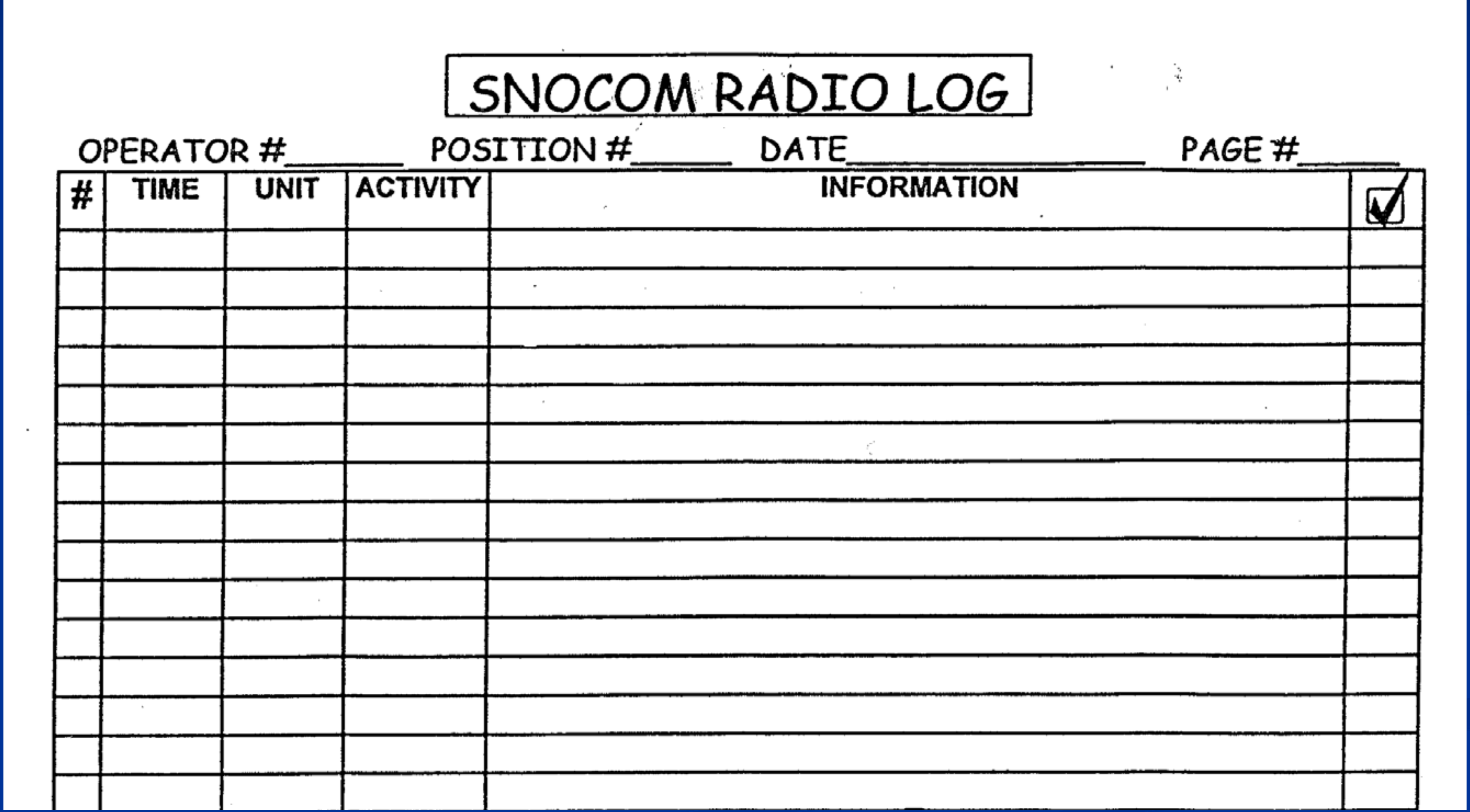
Hurricane Katrina strengthened into a powerful Category Five hurricane with sustained winds of 160 mph. The boost came just hours after Katrina reached Category 4, with wind of 145 mph, as it gathered energy from the warm water of the Gulf of Mexico. Here it continues on its path towards the Louisiana-Mississippi coastline.

Courtesy: www.nasa.gov

What to Expect When Arriving at a Communications Center During Disaster Operations

- Controlled chaos
- Employees who have been working continuously with few or no breaks
- Police and Fire Command staff on-site
- Possible equipment failures – Employees working in “Manual” mode
- The need for quick solutions to solve critical problems

Manual Operations (Radio)



SNOCOM RADIO LOG

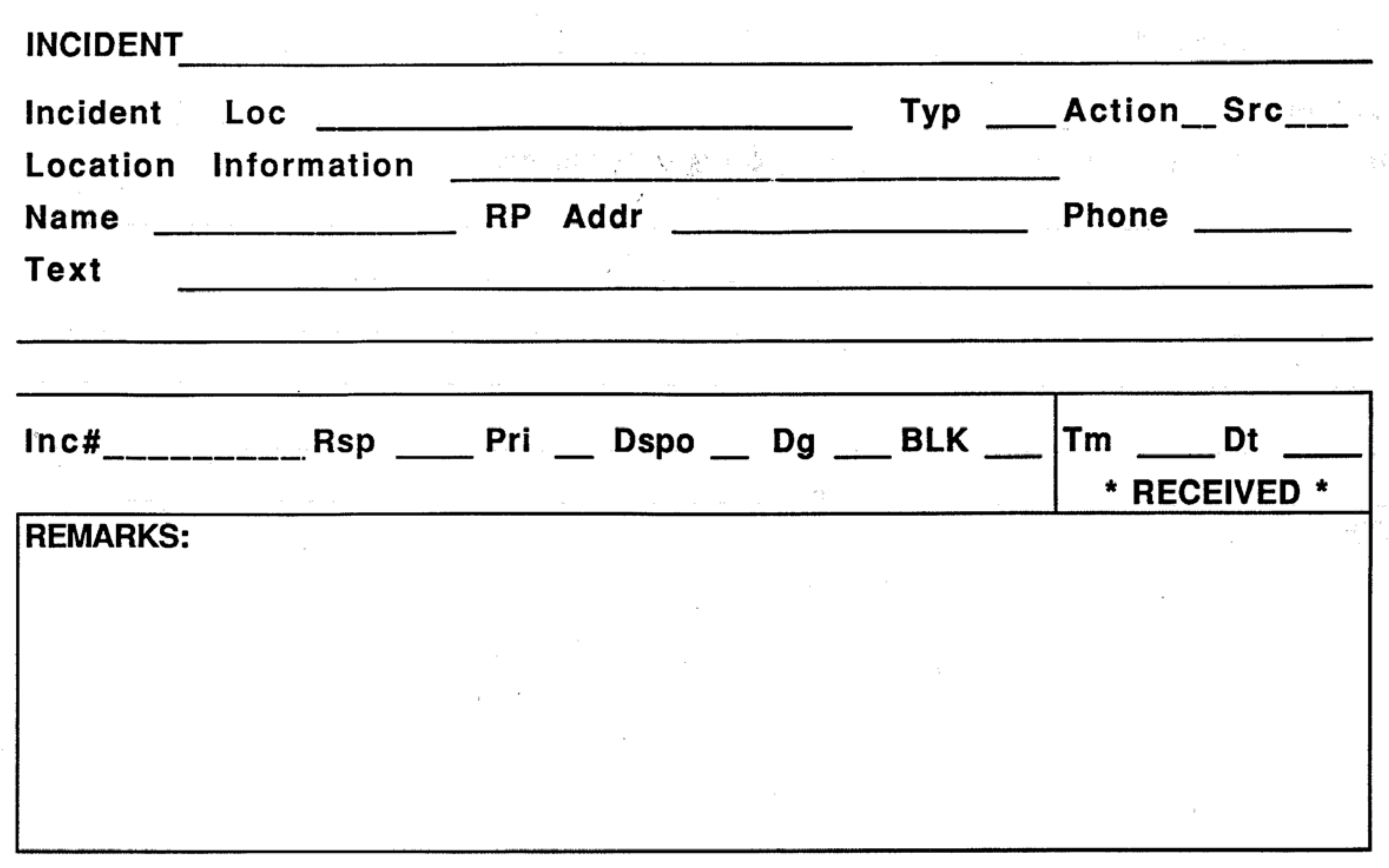
OPERATOR #_______ POSITION #______ DATE__________________ PAGE #______

#	TIME	UNIT	ACTIVITY	INFORMATION	☑

Manual Operations (Radio)

Back-up “Base Station” type radio

Manual Operations (911 Calls)



INCIDENT ____

Incident Loc ______________________ Typ ____ Action __ Src ___

Location Information ________________________

Name ____________ RP Addr ______________ Phone ________

Text ____

Inc# __________ Rsp ____ Pri __ Dspo __ Dg ___ BLK ___

Tm ____ Dt ____

* RECEIVED *

REMARKS:

Power Failure

Phone Failure

What to do if you arrive and nobody is there…

- Refer to your group’s emergency plan.
- Refer to the county or city emergency operations plan.
- Respond to the alternate site.
- Contact the EOC for assignment.
- Contact the person in charge for assignment.
- Locate police or fire personnel for information.

Tasks you may be assigned

- Assisting technicians repair and test equipment.
- Assistance moving operations to an alternate site.
- Paired up with dispatch or field personnel
- Assist with errands e.g. gassing generators.
- Assist dispatchers with manual operations.

Tasks you may be assigned

- Assistance repairing antennae .
- Tracking down resources.
- Answering non-emergency phones .

How to prepare to assist

- Join or register with a group such as RACES or ARES who provide civil services during disasters.
- Prepare yourself and your family so that you can work without distraction and worry.
- Read and know the local Emergency Operations Plan.
- Know where you need to be.
- Understand that most communications centers are not equipped to handle “Spontaneous volunteers” If you are not part of a formal group, spontaneous volunteers will likely be redirected to the Emergency Operations center who have staff to assign such individuals.

Preparation

- Know where alternate facilities are located.
- Make sure your group knows and understands their role in the operations plan.
- Meet with dispatch center officials before a disaster to ensure everyone is on the same page.
- Practice your group response ahead of time.
- Participate in local and regional drills and exercises.
- Ensure your group members meet security requirements for working in a communication center.

Resources

- WWW.FEMA.GOV
- WWW.911DISPATCH.COM
- WWW.RACES.NET
- WWW.ARES.ORG
- http://EMD.WA.GOV
- WWW.FCC.GOV

Questions?